DOCUMENT RESUME

ED 290 492 IR 052 263

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TITLE Integrating CAI into an Undergraduate Library Skills Course.
PUB DATE [86]
NOTE 22p.; Paper presented at the National Educational Computing Conference (San Diego, CA, June 1986).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Assisted Instruction; *Computer Assisted Testing; Course Evaluation; Courseware; Higher Education; Individualized Instruction; Librarians; *Library Instruction; *Library Skills; Microcomputers
IDENTIFIERS *State University of New York Coll at Plattsburgh

ABSTRACT

Computer-assisted instruction has been integrated into an established library skills course at the State University of New York at Plattsburgh to supplement readings, classroom contact, and library assignments. Seven programs, one for each instructional unit of the course, were created in the form of self-tests that review course content, identify student weaknesses, and provide instruction. The capacity for immediate response to student input adds a dimension previously missing in the course and addresses the need for more individualized instruction where subject matter is difficult or poorly understood. The programs were developed in 1984 using the ApplePILOT authoring language, and tested on 70 to 80 students in the spring semester of 1985. These students found the programs to be valuable learning tools, and 87% of them recommended that the programs be made a permanent part of the course. Additional testing of the programs was planned for the fall 1985 semester with a much larger group of students (300-400) to confirm their value and to determine what effect, if any, they may have on academic performance and motivation. Three appendices present the data from the first study together with student comments. (Author/EW)

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INTEGRATING CAI INTO AN UNDERGRADUATE LIBRARY SKILLS COURSE

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ABSTRACT

This paper discusses the integration of computer-assisted instruction (CAI) into LIB101, an established library skills course at SUNY-Plattsburgh. CAI is being introduced into the course to supplement readings, classroom contact, and library assignments. The programs are in the form of self-tests that review course content, identify student weaknesses, and instruct. The capacity for immediate response to student input adds a dimension previously missing in the course and addresses the need for more individualized instruction where subject matter is difficult or poorly understood. The programs were designed by a librarian, using the ApplePILOT authoring language, as part of a sabbatical project in the Fall of 1984. In the Spring of 1985 they were tested on 70-80 students who also evaluated them and found them a valuable learning tool. 87 per cent of these students recommended that the programs be made a permanent part of the course. The experiment has been extended and the programs are being tested in the Fall 1985 semester on a much larger group of students (300-400) to confirm their value and to determine what effect, if any, they may have on academic performance and motivation.

INTRODUCTION

Librarians have long been aware of how inadequate college students are in using library resources and have spearheaded the movement to make formal bibliographic instruction part of the college curriculum. Teaching

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faculty have also become more aware of the problem and of the contribution librarians can make to its solution.[1] Faculty and librarian cooperation, especially in the last ten or fifteen years, has resulted in many new programs and courses being established that draw the knot tighter between library skills and undergraduate study. At times such programs have taken the form of a separate library skills course, usually carrying academic credit. More often, bibliographic instruction appears as part of upper-level courses or as part of Freshman English. On some campuses librarians, instructors, and administrators have cooperated to make library skills a requirement for graduation in the same manner as basic writing and math skills. This occurred at State University of New York (SUNY) College at Plattsburgh in 1979.

Librarians have been attracted to bibliographic instruction mainly by the need to fill an important learning gap. Another magnet has been the excitement and challenge a new field creates as it develops. The chance to participate in this development through experimentation and innovation has turned attention to mediated instruction and computers in addition to more traditional teaching methods. Several noteworthy experiments with CAI and bibliographic instruction have occurred over the last 20 years and a body of literature has developed. The question of integrating CAI into library skills programs has been of continuing interest.[2]

COMPUTERS AND LIB101

State University of New York College at Plattsburgh is an arts and science college with 6,200 students. Since 1979 LIB101: Library Research Skills, a 1-credit-hour course, has been required of all students as part of the general education curriculum, along with math, writing, and analytical skills. The course meets as a traditional class once a week for

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7 weeks and consists of 7 instructional units. Each unit is outlined in an assigned reading and is accompanied by a worksheet assignment that must be done in the library. The course syllabus covers the following areas:

Unit 1: How Library Materials Are Organized

Unit 2: Research Strategies

Unit 3: Reference Sources

Unit 4: Author/Title Catalog

Unit 5: Subject Catalog

Unit 6: Periodicals and Indexes

Unit 7: Government Documents

Several articles document the evolution of LIB101 at Plattsburgh State and discuss the various methods used to teach it.[3] In the 6 years that the course has been taught, approximately 1400-1600 students a year have been enrolled. Normally, twenty sections are taught each semester and two sections each summer. The sections average between 30-45 students and are taught by librarians of the College aided by 2-4 adjunct faculty from local libraries. CAI was introduced into LIB101 in the Spring of 1985. The programs were designed by the author while on sabbatic leave during the Fall of 1984.

The CAI component of LIB101 consists of 7 programs, one for each of the 7 instructional units in the course. Programming was done using an Apple II+ and ApplePILOT, Apple's version of the authoring language Pilot. ApplePILOT was chosen because it could be learned quickly, did not require extensive programming experience, and made it possible for a novice to create courseware with minimum frustration and maximum use of time.[4] Another important consideration was the low cost of ApplePILOT and its compatibility with the hardware available to the author: an Apple II+, 2 disk drives, and a monitor. Students check out LIB101 program diskettes in

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the microcomputer lab located in the library. The programs require an Apple II+ or IIe and one disk drive to run. They are extremely simple to operate and are accompanied by a brief instructions booklet.

The main reason for creating the CAI programs was to improve the learning context of the course. It was felt that CAI could be used to overcome shortcomings of various LIB101 written assignments and relieve certain problems common to courses with large enrollments and limited staff. The programs were never intended to displace any part of the current structure of LIB101. The course, which includes readings, traditional classes, and library worksheet assignments, needs all of these formats to achieve its goals. The approach used is consistent with the view that in "the total educational system, CAI is most effective when it can supplement and complement, not replace, more traditional instruction." [5]

The print worksheet assignments, for example, are an indispensible part of the course since they give students actual practice using the library and its resources. Such practice is essential to develop research skills. The worksheet assignments, however, have disadvantages. High enrollment, a small teaching staff, and the fast pace of the course require machine grading of worksheets. Format for machine-graded worksheets, on the other hand, is mostly limited to multiple choice or true/false questions. The need of such questions to focus on a "right" answer restricts both topics and the range of choices, and leaves little or no room for alternative answers. Yet, consideration of alternatives is frequently a part of most library search strategies. In a library answers to information problems may be found in more than one type of collection, in more than one subject area, and in more than one type of source. Machine-graded worksheets are ill-suited to exploit these possibilities or to promote the kind of flexible thought good library research often demands. In addition,

they have the major disadvantage of pointing out errors without being able to offer explanations or remedial instruction.

Although multiple choice questions were also used on many of the CAI programs for LIB101, they could be programmed to accept more than one correct answer, where this was desirable, and students could be shown alternatives or have errors explained through immediate feedback. Fill-in questions were another way of using ApplePILOT to overcome the drawback of "one answer" questions. Although more difficult to program, fill-in questions could be made to accept a multiplicity of answers and offered greater opportunity for more personal feedback and interaction. These programming features were highly attractive because they could be used to discourage overly rigid thought patterns and might be a more vivid way of making students aware of the analytical side of the research process than the machine-graded worksheets. It was also obvious, however, that the computer was no replacement for actual practice using the library and its resources. Thus, although the computer's power to accept alternatives and to create an instructional dialogue with the student was an advantage over the worksheets, it did not supplant their primary purpose and role in the course.

Similarly, the CAI programs were intended to enhance or complement the learning environment of the classroom. They in no way substitute for the traditional class meeting in LIB101, which is used to make students aware of the concepts behind their readings and assignments. The classroom is our opportunity to teach students how to analyze information problems and how to structure search strategies. The classroom setting of LIB101, however, has limitations placed on it by the large number of students enrolled and the fact that it meets only once a week. There is, thus, little opportunity for personal contact with students. There is too little

time for individual attention, too little time for adequate feedback on assignment errors, and too little time for remedial instruction. It was anticipated that the CAI programs would give students a way around these drawbacks and make learning easier and less frustrating for them.

The CAI component of LIB101 consists of 7 testing programs that review course content, help students identify areas of weakness, and offer additional instruction. The programs give students a more accurate idea of progress than possible in the large classroom setting or even from the instructor, who, in most cases, does not get to know all students. The ability of CAI to provide feedback and use error as a teaching device gives an opportunity for additional help to students whose deficiencies might otherwise go unnoticed and unattended because of class size and lack of time. Each program tests one of the units of the syllabus and is meant to be done after students have completed the parallel reading, class, and library worksheet assignment for that unit. The programs are introduced by mini-tutorials, usually a screen or two of information, and consist of a series of (multiple choice or fill-in) questions related to the readings and library assignments. Feedback is given for both correct and incorrect answers, calling attention to alternatives, explaining errors, or verifying the reasons behind an approved approach. Coaching is used as a learning device only in the case of particularly difficult questions, where it seemed justified to give students a second chance to answer. Some programs have questions based on simplified reproductions of catalog cards, entries from the Library of Congress Subject Headings list, and index and abstract samples. The programs vary in size but average 25-40 questions. Each takes about half an hour to complete and the pace is controlled by the student. When the program for a unit is finished, the student receives a numerical grade to help him/her assess performance. Since students were encouraged to

use the testing programs as a learning tool, how well the programs served this purpose is a good indicator of their success or failure.

PROGRAM EVALUATIONS

Since the CAI programs for LIB101 were designed simultaneously as the author was learning ApplePILOT, and under the pressure of time, they exploit a limited range of technical features. Only the simplest graphics were used, sound and record-keeping functions were not incorporated, and basic program design is too linear for truly sophisticated remedial instruction. The programming skills which the author did develop were probably overused, making the programs too standardized and more tedious than necessary. By the time the programs were completed, moreoever, the author became more adept and aware of how the earlier ones, in particular, could be improved if only another sabbatical were to follow. Despite their flaws the programs have the advantage of being specifically designed for LIB101 and this may explain why they were so well received by the students. Evaluations were completed after each program, students being requested to answer 4 questions and to make comments. Appendix 1 lists these questions and the average student response to all 7 programs as a per cent of the total. Calculations were also made, based on the total response to each question for all 7 programs, to arrive at a mean score for each question using a scale of 4. It should be noted that the integration of CAI into LIB101 is experimental. The programs were used in only 3 out of a possible 20 sections of the course and the evaluations are based on the responses of the 70-80 students in those 3 experimental sections.

The mean scores, which are consistently high for all questions, attest to the favorable reception of the programs and CAI. Reactions to specific questions show a greater differentiation and indicate how students

rated separate aspects of the programs. For example, question 1 (creative, innovative use of computer?) and question 2 (effective, appropriate use of computer?) probed student reaction to CAI as a teaching tool for library skills. At least a third ranked the CAI programs "excellent" for creativity or imaginative use of the computer to teach an unusual subject. A third also ranked them "excellent" as an appropriate use of computer technology, indicating strong approval of the way CAI could be used to teach library skills. The vast majority of other responses fell in the "good" category for both questions. The negative reaction (4%-5%) to both questions was so small as to be negligible, which was another encouraging indicator in itself.

Question 3 (value to you as a learning tool?) was, perhaps, the most important question because it asked students to judge how well the programs achieved their main purpose. The high proportion of students (42%) who found the programs an "excellent" learning tool, suggests that the CAI component did help clarify subject matter, as it was intended to do. An equally impressive number (45%) judged the programs "excellent" for the way they fit into the course as a whole, confirming their role as a useful supplement to the classroom, readings, and library assignments. The higher proportion of responses in the "excellent" category for both of these questions, compared to questions 1 and 2, indicates that students were more positively impressed by the effect the programs had on the learning process than by anything else.

Appendix 2 includes a second set of questions which students answered at the end of the course. They were used to help evaluate the programs, as a whole, rather than as individual units and gave students a chance to respond to questions which could only be answered after all the programs were done. Responses appear as a per cent of the total for each

question. The mean score, based on a scale of 4, is also given. It remained consistently high for most questions (averaging 3.34) and, except for question 4, was generally higher than on the evaluation of the individual programs. This is, perhaps, due to a more favorable impression of the later programs, which were designed with more expertise than the earlier ones. On question 4 (the programs are intellectually stimulating) 25% "strongly agreed" and 48% "agreed". The number of students who disagreed (25%), however, was a much higher negative response than for any other question and, thus, is significant. Although it may indicate a deficiency in approach or, perhaps, in programming style, it may also reflect the general student perception of library skills as a necessary but rather dull subject. This latter view is plausible since there was a very favorable response to Question 2 (the programs are a good method for teaching LIB101 course content) and question 5 (how would you rate the polish of the programs). Both show nearly 50% rating the programs in the highest category in each case, indicating strong approval of instructional method and design. Why students would respond so favorably to questions 2 and 5 yet consider the programs dull is confusing to me unless, perhaps, the subject matter itself is perceived that way.

Question 3 (the programs have educational value) and question 6 (the programs accomplish their purpose: provide a good self-test of course content and tutorial help in areas of weakness) confirmed the value students attached to the CAI component. A particularly high number (45%) "strongly agreed" in question 6 that the programs were effective learning tools. An even higher number (54%) "strongly agreed" in question 1 that the programs relate well to LIB101 course content. It follows then that 45% should also "strongly agree", in question 7, that the programs should become a permanent part of the course. On the other hand, the proportion

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(13%) who, in question 7, disagreed is relatively high in comparison with the low negative response to most questions. It also appears to contradict the generally enthusiastic reception of the programs in the other questions. One explanation, which came across in written student comments, is that course workload is perceived to be heavy enough without the programs. Despite the high value students may place on the programs, many evidently feel they should not be added to the course without an adjustment for more credit or reduced written assignments. This issue would have to be addressed before the programs could be fully integrated into the course.

The student evaluations were given an added dimension by the numerous written comments made on each program and at the end of the course. They appear in Appendix 3 and have been broken into the following categories:

THE COMPUTER AS AN EFFECTIVE LEARNING TOOL

CAI AS AN INTERESTING, ENJOYABLE LEARNING METHOD

THE CAI PROGRAMS AS AN INTRODUCTION TO COMPUTERS

CRITICAL, NEGATIVE REACTIONS

The student comments were extremely interesting and further support the evaluative data presented in Appendix 1 and Appendix 2. Much more vividly than the data, however, the comments convey the personal enthusiasm and excitement of using a computer for the first time and discovering its potential as a learning tool. The words that appear over and over again are "help" or "helpful", "learn", "understand", "explain", "clear" or

"clarify", "interesting", "like", and "enjoy". The student comments, in addition to the evaluative data, were persuasive evidence of the project's success and led to more extensive use of CAI in LIB101 in the Fall of 1985.

CURRENT STATUS OF THE CAI PROJECT

This fall (1985) 10 of the 20 sections of LIB101 are using the CAI programs. The total number of students involved is about 400, or half of those enrolled in the course. The experience of last spring is being tested on a much larger group of students to verify their value to students as learning aids. In addition, the final exam scores of students using the CAI component will be compared with those not using CAI to determine what, if any, effect the programs have on academic performance. Finally, questions will appear on the course evaluation forms to test for attitude or motivational differences between students enrolled in the CAI sections and those who are not.

Having this information, based on a large sampling of students, will help instructors decide whether or not to integrate the CAI programs into all sections of LIB101 and make them part of the course structure like the worksheets, classes, and readings. Otherwise, the programs may simply become available to instructors who elect to use them in their sections or to students who wish to use them as learning aids. Although the programs could be vastly improved by a professional touch, they represent a successful in-house effort to create a relevant, useful software package for a specific course. The unavailability of such packages for teaching library skills on the academic level was, of course, the stimulus for this project. The most gratifying part of it, however, was finding a way of using computer technology to create a learning experience many students identified as valuable, interesting, and even fun. By the end of LIB101 a large majority of students realize the value of the course and agree that

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it should be required, which is not how they feel initially. But they rarely speak of the experience as an interesting one, and even more rarely as enjoyable, or fun. If it can be demonstrated this fall that the computer does add this dimension to LIB101 and improves student motivation and attitude, then there will be another compelling reason, in addition to teaching potential, for integrating CAI into the library skills program at Plattsburgh State.

REFERENCES

1. Among recent essays dealing with the need for closer contact between librarians and teachers to combat library illiteracy see Stacy E. Palmer, "Teaching Students To Do Research: Professors Get Hlep From Librarians," The Chronicle of Higher Education (18 May 1983), p.27; David Y. Allen, "Students Need Help in Learning How to Use the Library", The Chronicle of Higher Education (9 June 1982), p.56.

2. For two recent survey articles on the subject see Mary Huston-Miyamoto, "Computer-Assisted Instruction in Libraries: Past, Present, and Future," in Directions for the Decade. Library Instruction in the 1980s, ed. by Carolyn Kirkendall (Ann arbor, Mich.: Pierian Press, 1981), pp.99-118; Mitsuko Williams and Elisabeth B. Davis, "Computer-Assisted Instruction: An Overview," in Theories of Bibliographic Education, ed. by Cerise Oberman and Katina Strauch (New York: R.R. Bowker Company, 1982), pp.171-191. The topic continues to be of high interest as evidenced by the recent conference, Library Instruction and the Computer held in New York City in April 1985 and sponsored by the Library Association of CUNY and the New York ACRL.

3. For a brief history of the course and experiments associated with it see Thomas J. Morrissey, "The Research Paper: What Not to Teach in Freshman English," The English Record 3(Summer 1981), pp.22-23; Topsy N. Smalley. Bibliographic Instruction for Undergraduates: An Example of a One-Credit Required Library Research Skills Course (Arlington, Virginia: ERIC Document Reproduction Service, ED 232 656, 1983), pp.1-116. For a descriptive study see Carla List and Dennis Kimmage, "Case Study #2: State University of New York College at Plattsburgh," in Teaching Library Skills for Credit," ed. by Mignon S. Adams and Jacquelyn M. Morris (Phoenix, Ariz.: Oryx Press, 1985, pp. 100-106.

4. For an excellent introduction to Pilot, extremely readable and clear, see Tom Conlon, Pilot - The Language and How to Use It (Englewood Cliffs, New Jersey: Prentice/Hall, 1984.

5. Mitsuko Williams and Elisabeth B. Davis, " Computer-Assisted Instruction: An Overview," in Theories of Bibliographic Education, ed. by Cerise Oberman and Katina Strauch (New York: R.R. Bowker Company, 1982), p. 186.

APPENDIX 1

STUDENT EVALUATIONS: INDIVIDUAL UNITS

AVERAGES FOR 7 PROGRAMS AS A PER CENT OF TOTAL

1. Creative, innovative use of computer?

Excellent:	36%
Good:	60%
Weak:	3%
Not acceptable:	1%
Mean(4-scale):	3.32

2. Effective, appropriate use of computer?

Excellent:	34%
Good:	62%
Weak:	3%
Not acceptable:	1%
Mean(4-scale):	3.30

3. Value to you as a learning tool?

Excellent:	42%
Good:	53%
Weak:	4%
Not acceptable:	1%
Mean(4-scale):	3.36

4. Fits well into LIB101 curriculum?

Excellent:	45%
Good:	50%
Weak:	4%
Not acceptable:	1%
Mean(4-scale):	3.38

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APPENDIX 2

END OF SEMESTER STUDENT EVALUATION OF CAI COMPONENT

RESPONSE AS A PER CENT OF TOTAL

1. The programs relate well to LIB101 course content:

Strongly agree:	54%	Disagree:	0
Agree:	46%	Strongly disagree:	0

Mean (4-scale): 3.54

2. The programs are a good method for teaching LIB101 course content:

Strongly agree:	49%	Disagree:	3%
Agree:	46%	Strongly disagree:	2%

Mean (4-scale): 3.42

3. The programs have educational value:

Strongly agree:	36%	Disagree:	2%
Agree:	60%	Strongly disagree:	2%

Mean (4-scale): 3.30

4. The programs are intellectually stimulating:

Strongly agree:	25%	Disagree:	25%
Agree:	48%	Strongly disagree:	2%

Mean (4-scale): 2.96

5. How would you rate the polish of the programs:

Excellent:	44%	Weak(Amateurish):	2%
Good:	54%	Unacceptable (Sloppy):	0

Mean (4-scale): 3.42

6. The programs accomplish their purpose: provide a good self-test of course content and tutorial help in areas of weakness:

Strongly agree:	45%	Disagree:	3%
Agree:	52%	Strongly disagree:	0

Mean (4-scale): 3.42

7. The programs should become a standard part of LIB101:

Strongly agree:	45%	Disagree:	13%
Agree:	42%	Strongly disagree:	0

Mean (4-scale): 3.32

APPENDIX 3: STUDENT COMMENTS

THE COMPUTER AS AN EFFECTIVE LEARNING TOOL

Very helpful.

It's a good learning tool.

I found it helpful. I don't think the Library Skills booklet explains this information well enough before the test. I didn't score well on the first part. I did it twice.

It's a great help to the LIB101 student.

Easy to use, helpful.

A pleasure to use, easy to follow instructions. I learned something.

For a first time computer user I feel this is an excellent tool for LIB101 or any educational aspect.

It is an excellent learning tool.

Great stuff.

I felt that using the computer really helps out a lot in learning the material.

Good idea.

Its a good idea, it gets you to practice the things you learn by doing the assignments.

Very good experience.

It really helped summarize the article and put to use what was read. Given situations helped me think about where to find and how to narrow (etc.) other topics.

Have improved slightly.

Used it twice.

It specified some things I wasn't sure of.

It caught me on a few questions. I did better last time.

I received more on my first try for Unit 2 than I did for Unit 1.

I realized after completing this section that I didn't know the material as well as I had thought. In order to correct myself I will re-read the material.

Actually learned something.

Computer assignments are a very valuable part of learning.

I did better this time than last.

I feel that the Apple program is a great hands on learning experience.

I felt this one was especially helpful. The examples were excellent.

Even though I'm doing it late, I thought it was a great review.
It helps a great deal.

I understand this one much more because I work with this in the library.

I find the computer to be helpful in my learning about Feinberg Library.

The computer assignments are well worth the time.

The part of the test concerning the various parts of the card catalog was very helpful.

Had a great time using the Apple. Very efficient study tool.

Unit 5 allowed us to use the computer more, it was very good.

Very helpful; good to take notes that were missed in reading.

Great help for the quizzes.

This one was very helpful because I found that the subject card catalog was very confusing. I missed a lot of questions but learned a lot by reading the correct answer.

There were 3 or 4 items that weren't clear to me in Unit 5 until this test.

Assignment helped to explain work in class.

Cleared up some uncertainties on the subject heading topic.

I find that my knowledge in each area is usually broadened or at least any areas that were not entirely clear are now so. It helps to have the time to study the information on the screen at a pace best suited to me.

Computer assignment helps clarify library assignment.

I felt this computer project was a very good learning device for periodicals and magazine indexes & abstracts, etc.

I understood everything pretty well.

Helped me a lot.

Again, I suggest that these be used in future classes. When I was behind, these helped me to catch up to the class.

I think that these computer-aided learning units are very much worthwhile. You get a chance to test yourself on your knowledge of the Feinberg Library system and also detailed explanations are offered for wrong answers.

Computer is a valuable learning device.

Computer is a good idea! The understanding of material is made much easier.

This helped me to understand the organization system of the Government Documents sectionof the library. It was fun and a good learning tool for me and probably others who will use it.

It is a very good way of learning the material - It doesn't only give us the right answer but also gives us an explanation why the answer was what it was.

Good compliments for correct answer.

The program was more descriptive than the last couple of programs. The explanations for wrong questions are more explanatory than prior explanations for wrong answers.

I like how even when a wrong answer is given an explanation is given.

Good questions and explanations.

I find the comments "good!" "excellent!" etc. after you've chosen an answer to be very positive, that makes getting the answer right even better!

The computer assignments were the most helpful.

I can't emphasize enough how the computer helped me in learning the material.

I now understand the library more thoroughly and am more confident in finding books and information on certain topics.

The programs were the best part of the course.

Not only a help in library skills but introduced us to computer usage which we may not have had a chance to experience.

Helped very much.

Very, very good use of computers. I learned a lot from this setup.

I thought the use of the computer as a learning tool was an excellent idea, and should be made part of the course.

Very good. Didn't mind going to use them.

I found the disks to be valuable to me, it summarized material and showed me what I actually did or did not know.

I feel that the computer programs were an excellent way to make the students aware and an excellent learning experience for using the library.

CAI AS AN INTERESTING, ENJOYABLE LEARNING METHOD

I think this is a good and interesting way of learning a subject.

I never really worked with a computer before and I really find it a fun way of learning.

I liked this system of learning.

Very interesting.

Using the computer was better than falling asleep in lecture class. It was interesting.

I think it is a good idea to use the computer instead of going to the lecture.

The use of the computer is very useful in visually seeing your mistakes. I feel it is a very good program.

I enjoy working with the computer, it makes learning more enjoyable, and it gives you a chance to study instead of taking notes.

It is a very good way of learning the materials.

I felt this was the best computer test yet.

More interesting than Lecture more time to take down notes.

Doing this activity allows you to see what points you don't understand. It is also an interesting way to learn the material. Because if you get something wrong you're not penalized, you merely see that you must go overthe material again.

It is a good method of learning.

I am really enjoying these computer tests. It helps me understand the material better.

As I have said in the past I really enjoy using these computer programs because they allow me to work at my own pace and take down as many notes as wanted. It's fun to do.

I love working on the computer, its a great change.

I enjoy these computer exercises. They allow me to take a better understanding of the material.

This is a good idea. It keeps your attention better than the lectures, and you tend to remember more.

This disc program seemed to be the most creative so far.

I strongly suggest the use of this method in future classes.

The computer techniques used in this class have been very helpful. The material is presented in such a way to help you recollect the information given.

The programs really help you see what you are doing wrong. By giving the correct answer and then telling why is really a good way to learn from your mistakes. I found myself trying to get high grades on them even though they weren't being graded (for real).

I feel that the computer learning program was a plus in this class. It allows you to do it on your own selected time. It also can give you an idea of what you know and what you don't. Where as in lecture, the learning atmosphere isn't as such.

I though I got more from the computer part than I would have from going to lecture.

Excellent method.

THE CAI PROGRAMS AS AN INTRODUCTION TO COMPUTERS

I enjoyed using the material on the computer. It allows me to become a bit familiarized with the computer.

It also gives students contact with computer they might not normally have.

I like using the computer.

I like it.

I really liked working with the computer because I never have before. I found it very interesting.

I enjoy using the computer.

I enjoyed being introduced to computers.

Thank you for the opportunity to become acquainted with computers!

I'll miss using the computers. It is a very valuable asset to the curriculum.

CRITICAL, NEGATIVE COMMENTS

Program is a cheap attempt at modernization of a useless class.

There is to much time involved with the study guides and work on the computer. All college freshman should have to take it. Not junior or seniors. If you do all the work, it should be a pass or fail deal. Not a test too. To much work for 1 credit.

Too much work for 1 credit.

Some questions are a bit confusing.

Answer, if wrong, were always the same. Could guess the answer the second

time by the response of the computer.

I feel I would still be weak in the areas that I answered the questions wrong in.

I thought the assignment was difficult (Part I & II). I had to do it twice.

I found the use of abbreviations wasn't explained well in the handbook which made this difficult.

Some questions asked are not in the Study Guide.

It confused me.

I thought the assignment was somewhat difficult.

By using the Apple computer I was able to test myself on the material being covered in LIB101. My only reaction is what can the computer do that you can't do in the lab or the weekly assignments? I guess library skills is entering the age of computer technology.

I liked it when I didn't understand something but when I did, it was a waste of time.

Part 3 was too long. I lost interest after first 10 questions.

Not to bad, but kind of long.

Time consuming.

I suggest that we look or do the self-testing before taking the quiz.

It's alright, but it is very time consuming.

These are getting kind of boring.

Too long.

It may be more of a help to have some more material/information printed out on the computer before itasks the questions.

This study guide was too long! It was helpful but a little long when used with the reading.

This one too long.

Less work or more credit.

The programs were of some use in the beginning of the course. But then they got kind of boring to do.

I think it is unnecessary to have an instructor for this class and the computer can easily replace him/her because of the uncomplicated simplistic nature of the material.